

**STINFO COPY**



**AFRL-HE-WP-TP-2006-0088**

**Intelligence, Surveillance, and  
Reconnaissance (ISR) Planning  
Capability (Presentation/Briefing)**

**Gilbert G. Kuperman**

**Human Effectiveness Directorate  
Cognitive Systems Branch**

**June 2006**

**Interim Report for January 2004 to June 2006**

**20070404104**

**Approved for public release;  
distribution is unlimited.**

**Air Force Research Laboratory  
Human Effectiveness Directorate  
Warfighter Interface Division  
Cognitive Systems Branch  
WPAFB OH 45433-7604**

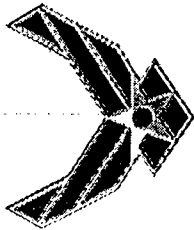
# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

<b>1. REPORT DATE (DD-MM-YYYY)</b> June 2006		<b>2. REPORT TYPE</b> Interim Presentation/Briefing		<b>3. DATES COVERED (From - To)</b> January 2004 - June 2006	
<b>4. TITLE AND SUBTITLE</b>  Intelligence, Surveillance, and Reconnaissance (ISR) Planning Capability (Presentation/Briefing)				<b>5a. CONTRACT NUMBER</b>	
				<b>5b. GRANT NUMBER</b>	
				<b>5c. PROGRAM ELEMENT NUMBER</b> 62201F	
<b>6. AUTHOR(S)</b> Gilbert G. Kuperman				<b>5d. PROJECT NUMBER</b>	
				<b>5e. TASK NUMBER</b>	
				<b>5f. WORK UNIT NUMBER</b> 7184X06C	
<b>7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)</b>				<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>	
<b>9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)</b> Air Force Materiel Command Air Force Research Laboratory Human Effectiveness Directorate Warfighter Interface Division Cognitive Systems Branch Wright-Patterson AFB OH 45433-7604				<b>10. SPONSOR/MONITOR'S ACRONYM(S)</b> AFRL/HECS	
				<b>11. SPONSOR/MONITOR'S REPORT NUMBER(S)</b>  AFRL-HE-WP-TP-2006-0088	
<b>12. DISTRIBUTION / AVAILABILITY STATEMENT</b> Approved for public release; distribution is unlimited. Cleared by AFRL/PA, on 11 Oct 06, Case #AFRL/WS-06-2392. AFMC/PAX approved AFMC-06-345.					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b>					
<b>15. SUBJECT TERMS</b>					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b>  SAR	<b>18. NUMBER OF PAGES</b>  7	<b>19a. NAME OF RESPONSIBLE PERSON</b> Gilbert G. Kuperman
<b>a. REPORT</b> UNCLASSIFIED	<b>b. ABSTRACT</b> UNCLASSIFIED	<b>c. THIS PAGE</b> UNCLASSIFIED			<b>19b. TELEPHONE NUMBER (include area code)</b>

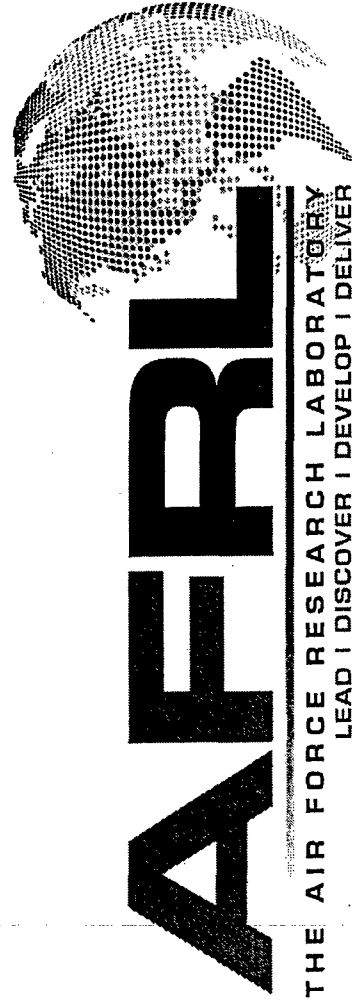
Standard Form 298 (Rev. 8-98)  
Prescribed by ANSI Std. Z39.18



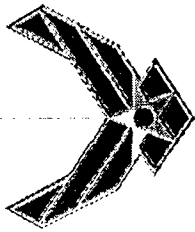
# ISR Planning Capability

## Interim Report: WU 7184X06C

Jun 2006



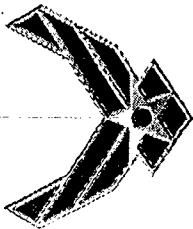
Gilbert G. Kuperman  
Principal Mathematician  
Human Effectiveness Directorate



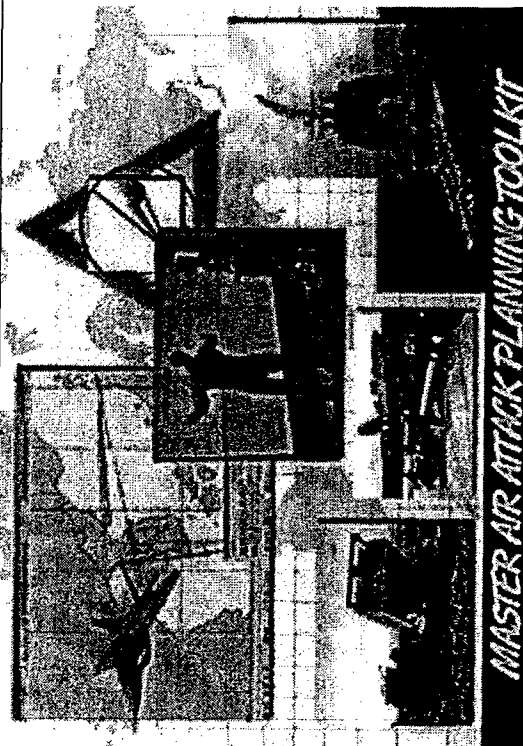
# ISR Planning Capability



- **Project Description:** Development and demonstration of shared battlespace awareness display capability between the ISR and Combat Operations Divisions of the AOC.
- **What does it do?** Conceptual displays to support ATO ISR collection plan execution monitoring, adjustment, and retasking
- **Products and benefits to the customer:**
  - Enhanced capability to visualize actual ISR collection activities and plans in spatial and temporal contexts
  - Current Synchronization Matrix is static and referenced only to planned activity over time

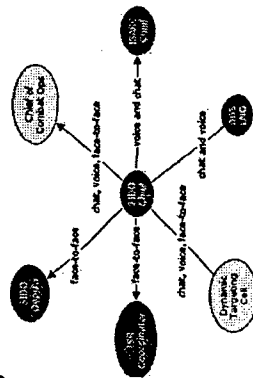


# Information Requirements Analysis for Dynamic Management of ISR Assets



## Description

- Human-system interface enhancements for MAAP Toolkit / WebTAS to better support ISR collection planning and dynamic ISR management
- Cognitive Task Analysis
- Human-Centered Design and Assessment Methodologies



## Resource Information

FY04 \$250K	FY05 \$181K	FY06 \$200K	FY07 \$250K	FY08 \$200K
----------------	----------------	----------------	----------------	----------------

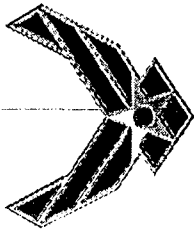
### Milestones:

- FY04: Analyses of MAAP TK and WebTAS
- FY05: Decision Analysis of ISR Managers
- FY06: Information Requirements Analysis-based display concepts and mission scenario
- FY07: HSI Concept Designs
- FY08: Refined HSI Concepts

Note: Actual FY06 funds = 90% of programmed

## Products & Benefits to Customer

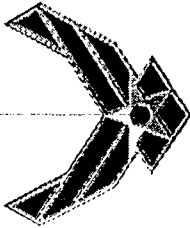
- Improved situation awareness for the planning, monitoring, and control of ISR assets
- Improved decision support for ISR planning and dynamic management
- Improved insight into the impact on ATO execution of sensor re-tasking
- Common tool for Intel and Combat Operations Divisions (in AOC) for ATO generation support



## Issues



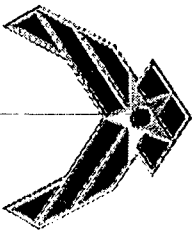
- Follow on 6.2 effort is programmed (“Dynamic Multi-Sensor Mission Planning and Exploitation”) but does not begin until FY11, resulting in two year “gap”



# Transition and Follow on Work



- **Transition:**
  - ISROE: “Dynamic ISR Warfighter Demonstrations” was approved on 27 Feb 06 for FY07/08 6.3 funding
    - Project introduction briefing provided to AFC2ISRC/ISRB/CC
  - Commander’s Predictive Environment (CPE):
    - Possible (Being explored with Dr. Miller)
  - Human Factors for the AOC (HF-AOC):
    - Possible (Being explored with Mr. Monk for expansion to include Strategy and Combat Plans Divisions)
- **Follow on: FY11 start for “Dynamic Multi-Sensor Mission Planning and Exploitation”**



# Funding and Execution



- OBS: 100%
- Expenditures/Invoice: 78% (Cumulative [as of 2/28/06])

6

